

CHAPTER 23

CUMULATIVE IMPACTS

This chapter describes the cumulative impact assessment methodology, actions considered in the cumulative impact assessment, and potential impacts if future projects are implemented with any one of the Draft Programmatic Environmental Impact Report (PEIR) Alternatives 1 through 8.

CEQA REQUIREMENTS

Cumulative impacts refer to two or more individual impacts that, when considered together, are considerable or that compound or increase other environmental impacts. A cumulative impact is a change in the environment that results from the incremental impact of a project when added to other closely related past, present, or reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant impacts taking place over time. An Environmental Impact Report (EIR) must discuss the cumulative impacts of a project when the project's incremental impact is "cumulatively considerable" (California Environmental Quality Act [CEQA] Guidelines section 15130[a]). "Cumulatively considerable" means that the project's incremental effects are significant when viewed in connection with the impacts of other related projects (CEQA Guidelines section 15065(a)(3)). In this analysis, if the Project's incremental impact would be "cumulatively considerable" in combination with the impacts of other projects, the impact is identified as a "significant cumulative impact."

CUMULATIVE IMPACT ANALYSIS METHODOLOGY

As described in Chapter 4, there are several water and natural resources management projects that affect the Salton Sea and the biological resources that depend on the Salton Sea. These projects are considered in Existing Conditions, No Action Alternative-CEQA Conditions, No Action Alternative-Variability Conditions, and Cumulative Impacts, as appropriate. A list of the related projects and the method of inclusion in the PEIR are summarized in Table 23-1.

Projects included in the cumulative impact analysis were identified using a list approach (CEQA Guideline section 15130[b][1]) and are those that could result in impacts to the same resources in the same geographic areas as the PEIR alternatives. Projects considered in this cumulative impact analysis consists of past, present, and probable future projects producing related or cumulative impacts, including, those projects outside of the control of the State.

The cumulative analysis in this PEIR is somewhat atypical as a result of the long study period (75 years), programmatic evaluation of inflows under the No Action Alternative-Variability Conditions, and inclusion of the full build-out of the Imperial County and Riverside County General Plans as part of the No Action Alternative. These projects and plans would more typically be included exclusively in the cumulative impact analysis rather than in the No Action Alternative. However, since the impacts of the PEIR alternatives would be distributed over several decades, the impacts of these long term projects and plans have been included in the No Action Alternative-Variability Conditions. These actions also are included in Alternatives 1 through 8. Therefore, the impact analysis included in the resource chapters (Chapter 5 through 22) includes cumulative analyses of future projects. The projects not included in the No Action Alternative-Variability Conditions were determined to not affect inflows to the Salton Sea, or would affect inflows but are not developed or defined to a level for quantitative analyses.

**Table 23-1
Related Projects**

Related Projects, Programs, and Actions	Existing Conditions	No Action Alternative-CEQA Conditions	No Action Alternative-Variability Conditions	Considered in Cumulative Impact Assessment
All-American Canal Lining Project		X	X	X ^a
Brawley Constructed Wetlands Demonstration Project	X	X	X	
Coachella Canal Lining Project		X	X	
Coachella Valley Multiple Species Habitat Conservation Plan				X
Coachella Valley Water Management Plan	X	X	X	
Colorado River Aqueduct Desalination and Salton Sea Water Supply Project				X
Colorado River Basin Salinity Control Projects	X	X	X	
Colorado River-Tijuana Aqueduct Enlargement			X	
Desert Southwest Transmission Line				X
Drop 2 Reservoir, Lower Colorado River Water Storage Project				X
Green Path Project—Imperial Irrigation District, Los Angeles Department of Water and Power, and Citizen's Energy				X
Imperial Irrigation District Water Conservation and Transfer Project	X	X	X	
Imperial County General Plan	X	X	X	
Imperial County / Imperial Irrigation District Groundwater Management Plan	X	X	X	
Imperial-Mexicali 230-kV Transmission Lines	X	X	X	
Metropolitan Water District of Southern California New and Alamo River Water Right Applications				X
New and Alamo Rivers - Reconnaissance Inventory of Wetland and Sedimentation Basin Sites				X
Quantification Settlement Agreement	X	X	X	
Riverside County General Plan	X	X	X	
Salton Sea Restoration Project-Federal Feasibility Study				X
Salton Sea Shallow Water Habitat Pilot Project				X
Salton Sea Unit 6 (Geothermal)		X	X	X ^a
Southwest Transmission Expansion Plan		X	X	X
Torres Martinez Land Use, Zoning and Development Plan	X	X	X	
Torres Martinez Water Quality Wetland Project				X
Total Maximum Daily Load Implementation	X	X	X	X ^a
Vertical Tube Evaporator Geothermal Desalination Demonstration Project				X
Wastewater Conveyance and Treatment Project for the Mexicali II Service Area	X	X	X	

Note: X^a = Long term operational impacts are included in Existing Conditions and No Action Alternative. Short term construction impacts, especially related to biological resources, are included in Cumulative Impact Assessment.

ANALYSIS OF CUMULATIVE IMPACTS

This section describes the projects included in the cumulative impact analysis, the status of their environmental documentation, anticipated environmental impacts of those projects (identifying only those resources that also would be affected by the PEIR alternatives), and the potential cumulative impacts of those projects in combination with the PEIR alternatives. Cumulative projects are discussed in alphabetical order below. Cumulative impacts are discussed by resource area following the description of cumulative projects.

Description of Cumulative Projects

All-American Canal Lining Project

Project Description

This project is described in Chapter 4.

Project Environmental Analysis Status and Anticipated Environmental Impacts

A Final Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the All-American Canal Lining Project was released by the U.S. Department of the Interior, Bureau of Reclamation (Reclamation) and Imperial Irrigation District (IID) in March 1994 (State Clearinghouse Number 90010472). In November 1999, Reclamation completed a Reexamination and Analysis of the 1994 Final EIS/EIR and its Record of Decision concluding that the 1994 document satisfies the requirements of the National Environmental Policy Act. A second reexamination completed in 2003 affirmed the findings of the previous report. In 2006, Reclamation completed a Supplemental Information Report that concluded that no significant new circumstance or information have occurred since the completion of the 1994 EIS/EIR.

Final design for the All-American Canal Lining Project was initiated in 2004 and largely completed in early January 2006 (Reclamation, 2006). Construction was scheduled to begin in 2006 (Reclamation, 2006). However, in response to litigation, the Ninth Circuit Court of Appeals issued an emergency injunction in August 2006 with a hearing scheduled for December 2006.

The long term operational impacts of the All-American Canal Lining Project were included in the No Action Alternative. This Cumulative Impacts assessment considers the short term construction impacts. Construction of the All-American Canal Lining Project would result in short term impacts to air quality, biological resources (wetlands, terrestrial habitat, special status species, and canal fishery), cultural resources, and recreational resources (access to off-road recreational areas). Although construction has not begun at the time of preparation of this PEIR, Reclamation and IID have begun implementing some of the project's mitigation measures for biological, cultural, and recreational resources (Reclamation, 2006). Air quality impacts would be mitigated through compliance with current (2006) air pollution control regulations applicable to the Imperial Valley Planning Area during construction (Reclamation, 2006).

Coachella Valley Multiple Species Habitat Conservation Plan

Project Description

The Coachella Valley Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan is intended to conserve adequate habitat to provide for the long term viability of current and potential future State and federal Endangered Species Act concerns in the plan area and to simplify compliance with endangered species related laws and regulations (U.S. Department of the Interior, Fish and Wildlife Service [Service] and the Coachella Valley Association of Governments [CVAG], 2005). Twenty-seven species and 27 natural communities are considered, based on current habitat conditions and the extent of available

information. The Coachella Valley Multiple Species Habitat Conservation Plan area encompasses the entire Coachella Valley watershed except those portions outside Riverside County, areas outside the boundaries of the Coachella Valley Association of Governments, and Indian Reservation lands. The area covers over 1,200,000 acres (about 1,850 square miles) that include the valley floor and surrounding mountains up to the ridgeline. The Coachella Valley Multiple Species Habitat Conservation Plan includes the establishment of a reserve system, setting conservation objectives to ensure the conservation of the covered species and natural communities, and a management and monitoring program.

Project Environmental Analysis Status and Anticipated Environmental Impacts

A Draft EIS/EIR for the Coachella Valley Multiple Species Habitat Conservation Plan was circulated for public review by the Service and Coachella Valley Association of Governments in November 2004. A Final EIS/EIR was released in February 2006 (State Clearinghouse number 2000061079). This project was not included in the No Action Alternative-CEQA Conditions because the Final EIS/EIR and permits have not been completed.

The preferred alternative for the Coachella Valley Multiple Species Habitat Conservation Plan is expected to result in less than significant impacts to all environmental resource areas. Implementation of the plan would have some short term, localized, and less than significant impacts to biological resources, including sensitive species during reserve establishment and maintenance activities. However, the plan would have a net long term beneficial impact on habitat and special status species in the Coachella Valley.

Colorado River Aqueduct Desalination and Salton Sea Water Supply Project

Project Description

Brawley FERC Associates, LLC and the City of Brawley are proposing to construct a desalination facility about 28 miles east of Indio (FERC, 2005). The facility would desalinate the Metropolitan Water District of Southern California (Metropolitan) Colorado River Aqueduct water to reduce salinity from about 700 milligrams per liter (mg/L) to about 100 to 200 mg/L. This would allow additional reuse of water within the Metropolitan service area (currently, reuse of water in the service area is limited due to high salinities). Brine generated as part of the desalination process would be conveyed through hydro-electric power plants to generate electricity prior to discharge into the Salton Sea. An estimated 60,000 acre-feet/year of brine would be generated in the desalination process. The water quality of the brine stream and its salinity has not been determined at this time. However, secondary treatment of the brine stream to reduce concentrations of constituents of concern, including perchlorate and selenium, may be required. Electricity generated by the brine stream is anticipated to be sold on the open market.

Project Environmental Analysis Status and Anticipated Environmental Impacts

The City of Brawley obtained a Preliminary Permit from the Federal Energy Regulatory Commission in April 2005 (FERC, 2005). The preliminary permit maintains the priority of the license application while the city conducts investigations to determine the feasibility of the project and prepares the required application information and documentation. Environmental documents for this project have not been completed.

The project would provide a water source (an estimated 60,000 acre-feet of brine stream) to the Salton Sea. Discharge of this highly saline water to the Salton Sea would increase the total salt load to the Salton Sea, and overtime this would increase the salinity of the Salton Sea. As described above, the brine stream may also increase constituents of concern, including perchlorate and selenium in the Salton Sea. The project is also likely to result in short term construction related impacts to air quality, biological resources, and cultural resources. In addition, long term impacts may occur to biological resources due to loss of habitat (desert habitats and species) and due to disturbance and/or introduction of contaminants at the Salton Sea.

Desert Southwest Transmission Line

Project Description

The Desert Southwest Transmission Line project includes the construction, operation, and maintenance of a 118-mile long transmission line from the Blythe, California area to the Southern California Edison Company (SCE) Devers Substation, about 10 miles north of Palm Springs, California. The new line would operate at 500 kilovolts and would provide increased transmission line capabilities from the Blythe area to the Devers Substation to meet existing and future transmission system requirements. The project also includes a new substation/switching station just south of Blythe, California. The new transmission line generally parallels Interstate 10, and follows existing right-of-ways and utility corridors.

Project Environmental Analysis Status and Anticipated Environmental Impacts

The U.S. Department of the Interior, Bureau of Land Management and the Imperial Irrigation District (IID) circulated a Draft EIS/EIR for the Desert Southwest Transmission Line Project in October 2003. A Final EIS/EIR was released in December 2005 (State Clearinghouse number 2001041105).

The Desert Southwest Transmission Line project would result in a variety of construction related significant impacts to biological resources (primarily desert habitats and species), cultural resources (disturbance of resources eligible for National Register listing, discovery of a previously unknown prehistoric or historic resource), air quality impacts (exhaust and fugitive dust emissions), water resources (surface, groundwater, and water quality impacts), and geology and soils (impacts due to geologic hazards).

Drop 2 Reservoir Project, Lower Colorado River Water Storage Project

Project Description

The Drop 2 Reservoir Project would be located on about 621 acres formerly used for the Brock Ranch Experimental Research Station in Imperial County, California (Reclamation, 2005a). The proposed reservoir project is one of a variety of potential actions that may be taken to maximize beneficial use of Colorado River water in the United States. Specific objectives of the project include providing additional operational flexibility in the Lower Colorado River system for the Imperial Irrigation District, Coachella Valley Water District, and other Colorado system users, and providing regulatory storage capacity needed to reduce currently non-storable flows of the Colorado River below Parker Dam.

The proposed reservoir site is north of the All-American Canal and Interstate Highway 8, west of the Coachella Canal, about 30 miles southeast of the City of El Centro, California, and 25 miles west of the City of Yuma, Arizona. The 8,000 acre-foot reservoir would receive water from a connection to the Coachella Canal to the east, via a 5 to 7 mile long inlet canal (depending on alignment selected). Water released from the reservoir would be returned to the All-American Canal, via an outlet channel about 3,500 feet long.

Project Environmental Analysis Status and Anticipated Environmental Impacts

Environmental documents for this project have not been completed. However, the project would likely result in short term construction related impacts to air quality, biological resources, cultural resources, and water resources. In addition, long term impacts may occur to biological resources (desert habitats and species) due to loss of habitat.

Green Path Project—Imperial Irrigation District, Los Angeles Department of Water and Power, and Citizen's Energy

Project Description

The Green Path Project is an initiative by IID, the Los Angeles Department of Water and Power (LADWP), and Citizen's Energy, to accommodate the demand for more reliable energy and to comply with California's new renewable energy requirements. The Green Path Project is anticipated to reduce costs for IID's and LADWP's electric consumers, provide access to renewable geothermal energy, and increase the capacity of California's transmission system (Green Path Project, 2006). The project includes upgrades to the existing IID Energy power lines in order to meet increasing demand, and two new power corridors along with new transmission infrastructure to transfer "Green Energy" (i.e., geothermal and solar power) from areas in Imperial County to utilities throughout California. In addition, eligible customers and the elderly would be able to receive assistance from Citizen's Energy, a non-profit partner that would help consumers meet their energy bills.

The Green Path Project consists of a variety of individual projects, including the following:

- **Green Path Transmission Expansion Plan** – This project includes the expansion of IID's transmission facilities to meet growing demand for energy in its service area and to facilitate the delivery of renewable energy to the Southern California area.
- **Green Path Southwest, IID-Citizens San Felipe Interconnection Project** – This project includes a new substation, the San Felipe substation, near the Imperial County/San Diego County line, and the construction of about 50 miles of new transmission lines from the Imperial Valley substation to the new San Felipe substation.
- **Green Path Los Angeles Connection** – This project would provide a connection between the IID transmission facilities and the LADWP's facilities. The project would include 100 miles of new transmission lines from the Indian Hills area in Coachella Valley to the Upland substation, upgrades to current LADWP transmission lines, and the creation of two new substations.

Project Environmental Analysis Status and Anticipated Environmental Impacts

Environmental documents for the Green Path Project have not been completed. However, the project would likely result in short term construction related impacts to air quality, biological resources, and cultural resources. In addition, long term impacts may occur to biological resources (desert habitats and species) due to loss of habitat.

Metropolitan Water District of Southern California's New and Alamo Rivers Water Right Applications

Project Description

In 1997, Metropolitan filed Application 30661 with the State Water Resources Control Board (SWRCB), requesting a permit to divert water from the Alamo River and unnamed drains tributary to the Alamo River. The application requests a maximum direct diversion of 800 cubic feet per second, and a maximum annual use of 475,000 acre-feet. The purposes of use specified in the application include municipal, industrial, irrigation, and fish and wildlife protection and/or enhancement.

Metropolitan prepared an analysis of the availability of unappropriated water from the Alamo River and unnamed drains tributary to the Alamo River in 2004 (Metropolitan, 2004). The report identified two alternative ways for Metropolitan to use the water. One alternative would include an exchange of Colorado River water for Alamo River water with Coachella Valley Water District (CVWD). The second

alternative would provide delivery of the water to the Colorado River Aqueduct for use by Metropolitan. Under both alternatives, the water would need to be treated by desalination prior to use.

On June 4, 2003, Metropolitan filed Application 31431 with the SWRCB, requesting a permit to divert water from the New River and irrigation drains tributary to the New River. The application requests a maximum direct diversion of 700 cubic feet per second, and a maximum annual use of 433,400 acre-feet.

The project would consist of construction of diversion works on the New River, desalination and treatment facilities, and a conveyance system to deliver the water. Options for delivery of treated water are through a conveyance system directly to the Colorado River Aqueduct or to IID and CVWD through the Coachella Canal and other local irrigation works. Under the second delivery option, IID and/or the CVWD would exchange an equivalent amount of their Colorado River water for the desalted New River water.

Project Environmental Analysis Status and Anticipated Environmental Impacts

Environmental documents for this project have not been completed.

Diversion of water from the New and Alamo rivers has the potential to result in both temporary construction related impacts and long term impacts. Temporary impacts could include impacts to biological resources, cultural resources, and water resources due to construction of treatment and desalination plants and related conveyance facilities. Long term impacts would include reduction in flows in the New and Alamo rivers, water quality impacts in the New and Alamo rivers, reduced inflows to the Salton Sea, and impacts to water quality in the Salton Sea. Long term impacts could also include impacts to biological resources in both the New and Alamo rivers and the Salton Sea due to reduced flow/inflows and changing water quality.

New and Alamo River, Reconnaissance Inventory of Wetland and Sedimentation Basin Sites

Project Description

The Citizen's Congressional Task Force on the New River completed a reconnaissance inventory for potential wetland sites along the New and Alamo rivers (CCTF, 2002). The wetlands would be similar to the New River Brawley Constructed Wetlands Project (see discussion in Chapter 4). Seventy-nine potential wetland sites were identified and ranked based on construction, social, and maintenance considerations. The top 35 sites range in size from 32 to 585 acres. Because this project is in the preliminary planning stages, it is unknown how many sites would be developed out of the 79 potential wetland sites identified. As described in Chapter 3, Alternative 7 facilities were developed assuming this project would be implemented.

Project Environmental Analysis Status and Anticipated Environmental Impacts

Environmental documents for this project have not been completed. However, wetlands construction along the New and Alamo rivers would likely result in short term, construction related impacts to air quality, biological resources, cultural resources, and water resources (surface water flows and water quality). Overall, the wetlands could have a long term beneficial effect on biological resources and water quality. However, the wetlands also may have elevated selenium in the water column, plants, and animals, with the potential to adversely affect organisms that feed in the wetland areas. The wetlands would reduce inflows to the Salton Sea. However, the total reduction can not be determined until detailed project information is developed.

Salton Sea Restoration Project-Federal Feasibility Study

Project Description

The Water Supply, Reliability, and Environmental Improvement Act of 2004, Public Law 108-361, directed the Secretary of the Interior to “complete a feasibility study on a preferred alternative for Salton Sea restoration.” The feasibility study is to be completed by December 31, 2006, and prepared in coordination with the State of California and the Salton Sea Authority. Reclamation is preparing the Feasibility Study on behalf of the Secretary of the Interior. The study is in progress.

Project Environmental Analysis Status and Anticipated Environmental Impacts

The alternatives under consideration in the Federal Feasibility Study are similar to the alternative considered in this PEIR, and, therefore, many of the impacts are anticipated to be the same as described in the PEIR. In addition, it is anticipated that future actions to restore the Salton Sea would be conducted in coordination with the federal government and that only one restoration project would be implemented. Therefore, the Federal Feasibility Study is not considered in the cumulative impact analyses in this PEIR.

Salton Sea Shallow Water Habitat Pilot Project

Project Description

The Salton Sea Shallow Water Habitat Pilot Project by Reclamation includes construction of shallow water habitat on 120 acres adjacent to the southeastern shore of the Salton Sea. The purpose of the project is to evaluate the quality of shallow saline water shorebird habitat. Site preparation methods, costs, maintenance, colonization by bird and aquatic invertebrate species, and water and sediment chemistry in the impoundments will also be evaluated (Reclamation, 2005b). The project includes modification of two abandoned ponds to form four ponds, less than two feet deep on exposed Salton Sea sediments. Water is pumped from the Salton Sea and the Alamo River to achieve salinities ranging from 15,000 to 20,000 milligrams per liter in the inflow waters. Water flows through the ponds and is eventually discharged into the Salton Sea.

The Saline Habitat Complex included in most of the PEIR alternatives is anticipated to be similar to, but larger than the Shallow Water Habitat Pilot Project. The results of the Pilot Project will be used to refine the design, construction, and management of the Saline Habitat Complex areas.

Project Environmental Analysis Status and Anticipated Environmental Impacts

Reclamation circulated a Final Environmental Assessment for the project in September 2005, and construction began on the project in January 2006. This project was not included in the No Action Alternative-CEQA Conditions because the Final Environmental Assessment and permits for the project were obtained after the issuance of the NOP for the Salton Sea Ecosystem Restoration.

The Pilot Project would result in short term, construction related impacts to biological and cultural resources and air quality. The Pilot Project includes implementation of the applicable Imperial County Air Pollution Control District measures to minimize construction related fugitive dust and diesel exhaust emissions. Construction related impacts to biological resources were found to be less than significant, and the project is anticipated to have a long term beneficial affect to biological resources. Construction related impacts to cultural resources would be mitigated through worker education actions and evaluation of any evidence of archaeological resources identified during construction. In addition, this project would have minimal impact on inflow to the Salton Sea.

Salton Sea Unit 6, CE Obsidian Energy LLC

Project Description

This project is described in Chapter 4.

Project Environmental Analysis Status and Anticipated Environmental Impacts

The California Energy Commission approved Unit 6 in 2003. Construction of Unit 6 has not begun and the construction schedule is unknown at this time.

As described in Chapter 4, Unit 6 will affect land use and biological resources adjacent to the Salton Sea near the mouth of the Alamo River. These changes are considered in the No Action Alternative-CEQA Conditions and No Action Alternative-Variability Conditions. This Cumulative Impacts assessment considers the short term construction impacts related to air quality, soils/geologic hazards, water quality/erosion, biological resources, cultural resources, paleontological resources, land use, and traffic and transportation due to construction of the geothermal plant, geothermal wells, pipelines, and associated transmission lines. All of these impacts would be mitigated to less than significant levels.

Southwest Transmission Expansion Plan

Project Description

The California Independent System Operator Corporation¹ has developed the Southwest Transmission Expansion Plan to coordinate electrical transmission expansion for the Southern California/Southwest region (CISOC, 2005). The Southwest Transmission Expansion Plan consists of the following four phases:

- **Phase 1, Short term Upgrades** – This phase consists of upgrades to various facilities and transmission lines between Arizona and Southern California. Individual projects conducted as part of Phase I include upgrades to transmission lines and related facilities between the Palo Verde Nuclear Power Plant in Arizona to the Southern California Edison's Devers Substation in North Palm Springs, and upgrades to transmission lines and related facilities between the Hassayampa Substation in Arizona and the Imperial Substation in California.
- **Phase 2, Arizona-Nevada Short term Upgrades** – This phase consists of upgrades to transmission lines in central and northern Arizona and southern Nevada. This phase is in the final planning stages and has not undergone environmental review.
- **Phase 3, Southern California Edison's Devers-Palo Verde No. 2 Transmission Line Project** – This project includes a new 230-mile, 500 kilovolt transmission line from the Harquahala Substation near the Palo Verde Nuclear Power Plant in Arizona to the Southern California Edison's Devers Substation in North Palm Springs. The project also includes upgrades to 50 miles of 230 kilovolt transmission lines west of the Devers Substation. The California Public Utilities Commission and the Bureau of Land Management released a Draft EIR/EIR for the project in May 2006 (CPUC, 2006). The project is expected to be on-line around or after 2009.
- **Phase 4, Sunrise Powerlink Transmission Project** – This project includes a new transmission line from the San Diego Gas & Electric Company's Imperial Valley Substation to a new substation in Northern San Diego County (SDG&E, 2005). The line would continue southwest and terminate at an existing substation in Rancho Penasquitos in San Diego County. San Diego Gas & Electric filed its case for the need to build the Sunrise Powerline with the California Public

¹ The California Independent System Operator Corporation is a not-for-profit public benefit corporation that is an impartial operator of the statewide wholesale power grid. This system was implemented to maintain reliability and connect energy suppliers with utilities that distribute energy along the long-distance, high-voltage power lines that connect California with neighboring states, as well as Mexico and British Columbia.

Utilities Commission. A formal application and environmental documentation for the project are pending. The project is expected to be on-line around or after 2010.

Project Environmental Analysis Status and Anticipated Environmental Impacts

As described above, the individual projects that comprise the Southwest Transmission Expansion Plan are in various stages of environmental review and planning. Although final environmental documents have not been prepared for these projects, the projects are likely to result in short term, construction related impacts to biological resources (desert habitat and species), cultural resources (disturbance or potential disturbance of sites during construction), water resources, and geology and soils.

Torres Martinez Water Quality Wetland Project

Project Description

The Torres Martinez Desert Cahuilla Indians constructed 85 acres of wetlands on reservation lands in 2005 to improve water quality in the Whitewater River and Salton Sea. Water from the Whitewater River is diverted into the wetlands and treated using plants as a natural filtration system to remove phosphates, selenium, and bacteria (USEPA, 2005). The wetlands also provide habitat and serve as a recreational (bird watching) resource. The Torres Martinez Tribe was recently awarded a grant to expand the wetlands and conduct monitoring activities (USEPA, 2006).

Project Environmental Analysis Status and Anticipated Environmental Impacts

Construction was completed on the wetlands project in late 2005. The project will result in a reduction in inflows to the Salton Sea via the Whitewater River due to increased evapotranspiration. The wetlands should improve the quality of water discharged to the Salton Sea from the wetlands via the Whitewater River. In addition, the wetlands will provide additional freshwater wetland habitat for species that may also utilize the Salton Sea. Similar to other fresh water wetlands in the watershed, the wetlands also may have elevated selenium in the water column, plants, and animals, with the potential to adversely affect organisms that feed in the wetland areas. Future monitoring activities are planned to address this concern.

This project was not included in the No Action Alternative-CEQA Conditions because the Final Environmental Assessment and permits for the project were obtained after the issuance of the NOP for the Salton Sea Ecosystem Restoration.

Total Maximum Daily Load Implementation

Project Description

This project is described in Chapter 4.

Project Environmental Analysis Status and Anticipated Environmental Impacts

As described in Chapter 4, implementation of adopted Total Maximum Daily Loads (TMDLs) is considered in the Existing Conditions and No Action Alternative-CEQA Conditions and the No Action Alternative-Variability Conditions. This Cumulative Impacts assessment considers the short term construction impacts. Implementation of current and future TMDLs could result in short term construction related impacts to a variety of environmental resources including air quality, biological resources, and cultural resources. These impacts could result from the implementation of Best Management Practices and other actions to comply with TMDL requirements.

Vertical Tube Evaporator Geothermal Desalination Demonstration Project

Project Description

The Vertical Tube Evaporator Geothermal Desalination Demonstration Project is intended to demonstrate that steam driven thermal desalination using a multi-effect, vertical tube evaporator is a viable technology for the production of potable water in certain situations (Reclamation, not dated). The project will desalinate Salton Sea water and other brackish water sources to produce potable water using geothermal steam as an energy source. The project will also consider ways to selectively extract and market sulfate salts from the brine stream prior to the injection of the brine into the geothermal aquifer. The project would be located at Reclamation's existing Vertical Tube Evaporator Pilot Project site in the Imperial Valley.

Project Environmental Analysis Status and Anticipated Environmental Impacts

The environmental analysis status for this project was unknown at the time of issuance of this PEIR. However, because the project is located at an existing site and would generally use existing equipment and infrastructure, no or minor environmental impacts are anticipated.

Cumulative Impacts by Resource Area

This section provides a summary of the potential cumulative impacts, organized by resource area, which would result from the implementation of restoration actions at the Salton Sea and the projects described above. Mitigation measures to reduce significant cumulative impacts are also included.

Surface Water

The cumulative projects that include construction activities, such as the Desert Southwest Transmission Line and the Drop 2 Reservoir, have the potential to result in short term impacts to surface water from erosion and siltation, and creation of or contribution to polluted runoff. Construction activities associated with the Salton Sea Ecosystem Restoration alternatives would primarily occur within the existing Sea Bed, and are expected to result in less than significant impacts to surface water from erosion, siltation, or polluted runoff. Any impacts of the cumulative projects as well as the restoration alternatives are expected to be localized and minimized by standard mitigation measures in accordance with the Stormwater National Pollutant Discharge Elimination System permitting process. With the implementation of the NPDES permit requirements, which would be built into the Salton Sea Ecosystem Restoration Program, the contribution of any one of the PEIR alternatives to cumulative impacts to surface water from erosion and siltation, and creation of or contribution to polluted runoff, is expected to be below the "cumulatively considerable" threshold. Therefore, contribution of the PEIR alternatives to these cumulative impacts would be considered less than significant. No mitigation or next steps are required.

Some of the cumulative projects, such as the New and Alamo Rivers Wetlands and Sedimentation Basin Sites could result in the placement of structures within a 100 year flood hazard area. In addition, any of the PEIR alternatives may result in the construction of facilities on the Sea Bed which could also be subject to flooding if future inflows increased to higher volumes than predicted during design. However, prior to implementation of a preferred alternative, project-level design work would be conducted and would incorporate measures to reduce the potential for facilities to fail due to flooding. The PEIR restoration alternative contribution to these cumulative impacts would not be "cumulatively considerable," therefore, the contribution to these impacts is considered less than significant. No additional mitigation or Next Steps are required.

Any of the PEIR alternatives have the potential for a seiche to occur naturally, since there will always be a body of water, such as a Marine Sea or Brine Sink. This could be a significant impact on the environment, as it is under current conditions. Since none of the cumulative projects would occur in any of the proposed open bodies of water, and therefore potentially increase the likelihood of inundation by seiche, no cumulative impacts would occur. Therefore, the PEIR restoration alternative contribution to these cumulative impacts would be considered less than significant. No additional mitigation or Next Steps are required.

Some of the cumulative projects, such as the Colorado River Aqueduct Desalination Project, Metropolitan's New and Alamo River Water Right Applications, and the New and Alamo River Wetland and Sedimentation Basin Sites, have the potential to affect future Salton Sea inflows. None of the PEIR alternatives are expected to impact inflows into the Sea and, therefore, the contribution from the restoration alternatives to cumulative impacts is below the "cumulatively considerable" threshold. Therefore, the PEIR alternatives contribution to these cumulative impacts would be considered less than significant. No additional mitigation or Next Steps are required.

Surface Water Quality

The cumulative projects that could change inflows to the Salton Sea, such as the Colorado River Aqueduct Desalination Project, Metropolitan's New and Alamo River Water Right Applications, and the New and Alamo River Wetland and Sedimentation Basin Sites, also could affect surface water quality in the PEIR alternatives. However, the purpose of the wetlands project is to improve water quality, and Metropolitan would have to conform with requirements of the State Water Resources Control Board to transfer water from the New or Alamo rivers. Those requirements would include measures to mitigate any adverse effects to water quality. All projects within the Salton Sea watershed have to comply with water quality objectives of the Colorado River Basin Regional Water Quality Control Board's Water Quality Control Plan (Basin Plan). One of the objectives of restoration at the Salton Sea is to protect water quality. Evaluation of the cumulative effects from any of the PEIR alternatives and other actions occurring in the watershed will require additional data analyses and modeling. Therefore, cumulative impacts to water quality cannot be determined at this time, but would be expected to be mitigated with measures incorporated into the preferred alternative and compliance with Basin Plan objectives to reduce potentially "cumulatively considerable" impacts to less than significant.

Groundwater

Cumulative impacts associated with groundwater could occur if inflows to the Salton Sea increase and related saltwater intrusion increases in the Coachella Valley due to the cumulative actions. It does not appear that any of the cumulative projects would result in significant impacts from salinity intrusion to groundwater resources in the Coachella Valley and none of the PEIR alternatives would contribute to these impacts. The alternatives contribution to these cumulative impacts would not be "cumulatively considerable". Therefore, the contribution to these impacts is considered less than significant. No additional mitigation or Next Steps are required.

Biological Resources

Construction activity associated with the cumulative projects is either already completed or would not occur within the footprint of the Salton Sea where the combined effects of the projects could be magnified. However, construction activities that increase the overall activity in the areas surrounding the Salton Sea could increase the magnitude of impact of these activities on biological resources that occur in the affected areas. The construction of the treatment wetlands identified in the New and Alamo Rivers Reconnaissance Inventory of Wetland and Sedimentation Basins and implementation of TMDLs could result in an increase in construction activity in the area. The impacts of these cumulative projects on biological resources are generally expected to be minor or mitigated to less than significant levels. In

addition, the impacts of the PEIR alternatives could be mitigated to less than significant through the implementation of the Next Steps described in Chapter 8. The Salton Sea Shallow Water Wetland Habitat Pilot Project and the Torres Martinez Water Quality Wetland Project would not result in significant cumulative construction impacts in combination with any of the PEIR's restoration alternatives because these projects are already constructed. The alternatives contribution to these cumulative impacts would not be "cumulatively considerable." Therefore, the contribution to these impacts is considered less than significant. No additional mitigation or Next Steps are required.

Similar to the PEIR alternatives, the New and Alamo Rivers Reconnaissance Inventory of Wetland and Sedimentation Basins, the Salton Sea Shallow Water Wetland Habitat Pilot Project, the Torres Martinez Water Quality Wetland Project, and TMDL Implementation have the potential to result in long term beneficial impacts to biological resources. The proposed wetlands at the New and Alamo rivers and on the Torres Martinez Tribal lands could contribute to the overall availability of habitat for wildlife that use freshwater marsh and improve the quality of the water flowing into the created habitats associated with the restoration alternatives. This improvement in water quality (e.g., reduction in nutrients and possibly selenium) could result in an overall benefit to fish and wildlife using created habitats associated with the PEIR alternatives. However, accumulation of selenium and other potentially toxic compounds in the treatment wetlands could offset these benefits. Evaluation of the performance of current pilot projects and future monitoring activities planned for proposed wetland areas could address this concern. The Shallow Water Wetland Habitat Pilot Project would have a long term beneficial effect on biological resources by contributing to the availability of habitat for fish and wildlife. The Pilot Project also would create a benefit for the restoration by developing pilot information that would be used to refine the design, construction, and management of the Saline Habitat Complex areas. TMDL implementation also would result in long term water quality improvements that benefit species that currently rely on the Salton Sea. Implementation of any of the cumulative projects in combination with the restoration alternatives would result in long term beneficial effects.

Some of the cumulative projects, such as the Colorado River Aqueduct Desalination Project, Metropolitan's New and Alamo River Water Right Applications, and the New and Alamo River Wetland and Sedimentation Basin Sites have the potential to affect future Salton Sea inflows. Although the magnitude of these inflow changes (increase or decreases) is not known at this time, these potential changes could have a significant impact on the successful implementation of restoration actions at the Salton Sea. Additionally, if some or all of these projects are initiated at the same time as one of the PEIR alternatives, impacts to biological species in the Sea could be above the "cumulatively considerable" threshold and therefore result in significant cumulative impacts to biological resources. To reduce these significant cumulative impacts, it is recommended that during the project-level analyses, additional information should be sought on the potential changes in Salton Sea inflows as a result of these projects. As appropriate, and as information is available, these projects should be incorporated into future inflow and water balance modeling efforts.

The All-American Canal Lining Project, the Desert Southwest Transmission Line, the Drop 2 Reservoir, the Green Path Project, and the Southwest Transmission Expansion Project have the potential to result in impacts to upland and desert species and habitats. The PEIR alternatives contribution to these cumulative impacts would not be "cumulatively considerable." therefore, the contribution to these impacts is considered less than significant. No additional mitigation or Next Steps are required.

Geology, Soils, Faults, Seismicity, and Mineral Resources

Although some of the cumulative projects, such as the Desert Southwest Transmission Line, have the potential to result in impacts to people due to exposure of people to risks related to geologic hazards, these impacts would be localized. The PEIR alternatives also have the potential to result in significant, but mitigable impacts as a result of exposure of people to risks related to fault rupture, seismic shaking, and

seismic induced ground failure, but these impacts would not occur in the same area as those of the cumulative projects. Therefore, although the PEIR alternatives would result in significant, but mitigable, impacts, their contribution to these cumulative impacts would not be “cumulatively considerable.” And therefore, the contribution to these impacts is considered less than significant. No additional mitigation or Next Steps are required.

Climate and Air Quality

Cumulative significant impacts due to the construction and operations and maintenance activities associated with fugitive dust (PM₁₀) emissions, hazardous air pollutant emissions, exhaust (NO_x and diesel) emissions, playa emissions (PM₁₀), and odorous emissions would occur if any of the PEIR alternatives were implemented at the same time as any of the cumulative projects that require construction activities or that would reduce inflows to the Salton Sea. These cumulative impacts would be at least partially mitigable through the implementation of the Next Steps described in Chapter 10. However, residual, “cumulatively considerable,” significant and unavoidable impacts could occur since these measures may not adequately reduce impacts.

Because the Metropolitan Water District of Southern California’s New and Alamo rivers Water Right Applications has the potential to result in substantial changes to Salton Sea inflows in the future, these projects also have the potential to substantially modify the existing microclimate characteristics adjacent to the Salton Sea.

These cumulative impacts would be at least partially mitigable through the implementation of the Next Steps described in Chapter 10. However, significant and unavoidable impacts could occur.

Land Use

The Metropolitan Water District of Southern California’s New and Alamo rivers Water Right Applications has the potential to result in substantial changes to Salton Sea inflows in the future, and therefore has the potential to result in conflicts with Imperial County General Plan provisions related to conditions in the Salton Sea. In addition, all of the PEIR alternatives have the potential to conflict with Imperial County General Plan provisions related to conditions in the Salton Sea during Phase I and Phase II (some alternatives), and result in less than significant impacts or beneficial effects in all other Phases. Although the long term effects of the PEIR alternatives are expected to be beneficial and the Colorado River Aqueduct Desalination and Salton Sea Water Supply Project could provide a minor source of water for the Salton Sea in the future, short term “cumulatively considerable,” significant and unavoidable impacts could occur and no feasible mitigation measures have been identified.

Implementation of the Metropolitan Water District of Southern California’s New and Alamo rivers Water Right Applications has the potential to result in substantial changes to Salton Sea inflows in the future, potentially resulting in a decrease in the Salton Sea elevation in the future. This would result in the exposure of additional Torres Martinez lands which are currently inundated and could allow for development in accordance with land use plans. This would be a less than significant impact or a beneficial effect. Alternatives 1, 2, 3, 4, and 8 have the potential to result in less than significant impacts or beneficial effects if the facilities could be designed with access to exposed land to comply with the Torres Martinez Tribe Land Use Plans. Alternatives 5, 6, and 7 have the potential to result in significant impacts as a result of conflicts with the Torres Martinez Tribe Land Use Plans, and Next Steps have been identified in Chapter 11 to reduce potential impacts to Tribal Lands. The minor source of water for the Salton Sea that could be provided by the Colorado River Aqueduct Desalination and Salton Sea Water Supply Project is not expected to result in a significant cumulative impact. The PEIR alternatives contribution to these cumulative impacts would not be “cumulatively considerable,” therefore, the contribution to these impacts is considered less than significant. No additional mitigation or Next Steps are required.

Many of the cumulative projects would result in the conversion of some land to other uses. In addition, all of the PEIR alternatives have the potential to result in less than significant impacts as a result of conversion of Rural Residential or agricultural lands to other uses (Sedimentation/Distribution Basins). Because the overall amount of land conversion is expected to be minor, the PEIR alternatives contribution to these cumulative impacts would not be “cumulatively considerable,” therefore, the contribution to these impacts is considered less than significant. No additional mitigation or Next Steps are required.

Cumulative significant impacts associated with increased distance from the shoreline of the Salton Sea to open water would occur if any of the PEIR alternatives were implemented in conjunction with the Metropolitan Water District of Southern California’s New and Alamo rivers Water Right Applications. These cumulative impacts would be significant and unavoidable since no feasible mitigation measures have been identified.

Population and Housing

Cumulative impacts associated with population and housing could occur due to implementation of the cumulative actions. As described in Chapter 12, the PEIR alternatives would not result in increased population and housing because it is projected that construction and operations and maintenance workers could be provided by the local work force. Therefore, if future impacts occurred, it probably would be caused by the other actions. The PEIR alternatives contribution to these cumulative impacts would not be “cumulatively considerable,” therefore, the contribution to these impacts is considered less than significant. No additional mitigation or Next Steps are required.

Recreation

Cumulative impacts associated with recreation probably would not occur. The cumulative projects could result in localized changes to recreation, including benefits and adverse impacts. The PEIR alternatives would not result in significant impacts to recreation., The PEIR alternatives contribution to these cumulative impacts would not be “cumulatively considerable,” therefore, the contribution to these impacts is considered less than significant. No additional mitigation or Next Steps are required.

Hazards, Hazardous Waste, and Public Health

Cumulative impacts associated with hazards, hazardous waste, and public health probably would not occur. The cumulative projects could result in localized impacts, but not regional impacts related to hazards, hazardous waste, and public health. The PEIR alternatives would result in less than significant impacts due to increased exposure to unexploded ordinances during construction activities and increased risk due to exposure to vectors or diseases, and would have beneficial effects on the risk of consumption of fish and wildlife tissue with high selenium. These impacts would be localized. The PEIR alternatives contribution to these cumulative impacts would not be “cumulatively considerable.” therefore, the contribution to these impacts is considered less than significant. No additional mitigation or Next Steps are required.

Cultural Resources

“Cumulatively considerable” and significant impacts could occur to cultural resources because the PEIR alternatives and the cumulative projects would result in a substantial amount of land disturbance in the Salton Sea area. This land disturbance could result in the disturbance of known or currently unknown cultural resources. However, cumulatively significant impacts would occur from individual projects and collectively from the projects and the PEIR alternatives. Standard mitigation measures are available for the cumulative projects and Next Steps have been identified for the PEIR alternatives that would reduce the severity of these impacts, but these measures could be “cumulatively considerable.”

Paleontological Resources

“Cumulatively considerable” and significant impacts could occur to paleontological resources because the PEIR alternatives and the cumulative projects would result in a substantial amount of land disturbance in the Salton Sea area. This land disturbance could result in the disturbance of known or currently unknown scientifically useful fossils or unearthing and removal of fossils without appropriate scientific recordation. Cumulatively significant impacts would occur from individual projects and collectively from the projects and the PEIR alternatives. Standard mitigation measures are available for the cumulative projects and Next Steps have been identified for the PEIR alternatives that would reduce the severity of these impacts. However, “cumulatively considerable,” significant and unavoidable impacts could occur since these measures may not adequately reduce impacts.

Noise

“Cumulatively considerable” and significant impacts associated with increased noise and excessive ground-borne vibration or ground-borne noise levels would occur if any of the PEIR alternatives were implemented at the same time as the Colorado River Aqueduct Desalination and Salton Sea Water Supply Project and/or the Metropolitan Water District of Southern California’s New and Alamo rivers Water Right Applications because these projects could also result in increased noise and excessive ground-borne vibration or ground-borne noise levels in the same areas as the PEIR alternatives. These cumulative impacts would be at least partially mitigable through the implementation of the Next Steps described in Chapter 17. However, residual, “cumulatively considerable,” significant and unavoidable impacts could occur since these measures may not adequately reduce impacts.

Aesthetic and Visual Resources

“Cumulatively considerable” and significant impacts associated with substantial degradation of the visual character, quality, or scenic vistas would occur if any of the PEIR alternatives were implemented at the same time as any of the cumulative projects with the exception of the habitat related projects (such as the Coachella Valley Multiple Species Habitat Conservation Plan and the wetlands projects). Similar to the PEIR alternatives, construction related cumulative projects could result in changes to the visual character, quality, or scenic vistas in the Salton Sea area. These cumulative impacts would be at least partially mitigable through the implementation of the Next Steps described in Chapter 18. However, residual, “cumulatively considerable,” significant and unavoidable impacts could occur since these measures may not adequately reduce impacts.

Public Services and Utilities

“Cumulatively considerable” and significant impacts associated with non-compliance or requiring new or altered solid waste facilities would occur if any of the PEIR alternatives were implemented at the same time as any of the cumulative projects because the PEIR alternatives and the cumulative projects would increase the demand for solid waste facilities during construction. These cumulative impacts would be at least partially mitigable through the implementation of the Next Steps described in Chapter 19. However, residual, “cumulatively considerable,” significant and unavoidable impacts could occur since these measures may not adequately reduce impacts.

Transportation and Traffic

“Cumulatively considerable” and significant impacts associated with a substantial increase in traffic would occur if any of the PEIR alternatives were implemented at the same time as any of the cumulative projects because the PEIR alternatives and the cumulative projects would increase traffic during construction, and potentially during operations. An increase in traffic on State Highways 86 and 111 from the cumulative projects in combination with the increase in traffic from the PEIR alternatives would exceed the significance thresholds described in Chapter 20. These cumulative impacts would be at least

partially mitigable through the implementation of the Next Steps described in Chapter 20. However, residual, “cumulatively considerable,” significant and unavoidable impacts could occur since these measures may not adequately reduce impacts.

Power Production and Energy

Cumulative impacts associated with an increase in energy demands probably would not occur, especially, if the future energy and transmission actions are implemented. Increased energy demand for the PEIR alternatives was not significant as compared to the overall energy demand in the Imperial and Coachella valleys and southern California. Actions considered in this cumulative impact analysis either would increase the availability of energy in the study area, or would not result in high energy demands. The PEIR alternatives contribution to these cumulative impacts would not be “cumulatively considerable,” therefore, the contribution to these impacts is considered less than significant. No additional mitigation or Next Steps are required.